

Reply to Office Action of October 21 2005
Amendment Dated: January 23, 2006

Appl. No.: 10/727,252
Attorney Docket No.: H0005762/HON-003

Listing of Claims

1 Claim 1 (Currently Amended): A method of enabling an operator to remotely
2 manage a plurality of field devices designed to implement a process in a plant, said plant
3 further containing a field device management station (FDMS) coupled to said plurality of
4 field devices by a control network, wherein said FDMS is designed to issue a plurality of
5 commands to each of said plurality of field devices on said control network, said method
6 comprising:

7 providing a wireless connection from a first client, wherein said wireless connection
8 provides communication between said first client and said FDMS;

9 enabling said operator to issue a first command from said first client to a first field
10 device contained in said plurality of field devices, wherein said first command is contained
11 in said plurality of commands;

12 transferring an indication ~~said first command~~ from said first client to said FDMS on
13 said wireless connection in response to said first command being issued by said operator,
14 said indication indicating that said operator has issued said first command from said first
15 client;

16 forwarding said first command from said FDMS to said first field device on said
17 control network in response to receiving said indication,

18 whereby said operator manages said plurality of field devices using said first client
19 based on said wireless connection,

20 providing a wire-based connection between a second client and said FDMS;

21 enabling said operator to issue an another command from said second client, said
22 another command being directed to a second device contained in said plurality of field
23 devices;

24 transferring an another indication ~~another command~~ from said second client to said
25 FDMS on said wire-based medium upon said user issuing said another command, ~~said~~
26 ~~another command being directed to a second device contained in said plurality of field~~
27 ~~devices~~; and

28 forwarding said another command from said FDMS to said second field device upon
29 receiving said another indication,

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30 whereby commands from said first client and said second client are channeled
31 through said FDMS.

1 Claim 2 (Previously Amended): The method of claim 1, further comprising:
2 connecting said first client to a second field device contained in said plurality of field
3 devices;
4 transferring a second command from said FDMS to said first client using said
5 wireless connection, wherein said second command is directed to said second field device;
6 and
7 sending said second command from said first client to said second field device,
8 whereby said second command is forwarded from said FDMS to said second field device
9 without using said control network.

1 Claim 3 (Currently Amended): The method of claim 2, further comprising enabling
2 said operator to issue said second command from said first client, wherein said FDMS
3 receives a second indication from said first client, said second indication indicating that said
4 second command has been issued at said first client and performs said transferring said
5 second command upon receiving said second indication.

1 Claim 4 (Previously Amended): The method of claim 1, wherein said wireless
2 connection is provided to cover the entire communication path between said FDMS and said
3 first client.

1 Claim 5 (Original): The method of claim 1, wherein said wireless connection is
2 provided between said first client and a network device, wherein said network device is
3 connected to a network connecting said network device to said FDMS by a wire-based
4 medium.

1 Claim 6 (Canceled)

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1 Claim 7 (Currently Amended): The method of claim 2 ~~1~~, maintaining a central log
2 of said first command, said second command and said another command in said FDMS,
3 wherein said central log is updated after said operator issues said first command, said second
4 command and said another command respectively.

1 Claim 8 (Currently Amended): A field device management station (FDMS) enabling
2 management of a plurality of field devices, said plurality of field devices being coupled to
3 said FDMS by a control network, said FDMS comprising:

4 a wireless interface providing connectivity to a first client by a wireless medium; and
5 a data manager block receiving an indication ~~a first command~~ from said first client
6 on said wireless medium, said indication indicating that a first command has been issued
7 from said first client, said first command being directed to a first field device contained in
8 said plurality of field devices, said data manager forwarding said first command on said
9 control network in response to receiving said indication,

10 wherein said first command is issued by an operator from said first client such that
11 said operator manages said plurality of field devices using said first client from locations
12 distant from said FDMS,

13 a wire-line interface providing connectivity to a second client by a wire-line based
14 medium,

15 said data manager block receiving another indication ~~a second command~~ from said
16 second client by said wire-line based medium, said another indication indicating that a
17 second command ~~being~~ directed to a second field device contained in said plurality of
18 devices has been issued, said data manager block forwarding said second command to said
19 second field device on said control network in response to receiving said another indication.

1 Claim 9 (Currently Amended): The FDMS of claim 8, wherein said data manager
2 block is operable to receive a third indication ~~second command~~ from said first client on said
3 wireless medium, said third indication indicating that a third ~~second~~ command ~~being~~
4 directed to a ~~second~~ third field device contained in said plurality of field devices has been
5 issued from said first client, said ~~second~~ third field device being connected to said first

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6 client, said data manager block forwarding said ~~second~~ third command on said wireless
7 medium to said first client in response to receiving said third indication.

1 Claim 10 (Canceled)

1 Claim 11 (Currently Amended): The FDMS of claim 9, further comprising:

2 a wireless client handler provided between said wireless interface and said data
3 manager, said wireless client handler receiving said first indication ~~command~~ on said
4 wireless medium, said wireless client handler further receiving a first response from said data
5 manager block and forwarding said first response on said wireless medium to said first
6 client; and

7 a wire-line client handler provided between said wire-line interface and said data
8 manager, said wire-based client handler receiving said second command on said wire-based
9 medium, said wire-based client handler further receiving a second response from said data
10 manager block and forwarding said second response on said wire-based medium.

1 12 (Original): The FDMS of claim 11, wherein said data manager receives a request
2 to establish a connection from said first client and instantiates said wireless client handler
3 in response to receiving said request.

1 Claim 13 (Previously Amended): The FDMS of claim 9, wherein said data manager
2 maintains a central log containing information on said first command and said second
3 command.

1 Claim 14 (Currently Amended): A computer readable medium carrying one or more
2 sequences of instructions for causing a field device management station (FDMS) to enable
3 management of a plurality of field devices, said plurality of field devices being coupled to
4 said FDMS by a control network, wherein execution of said one or more sequences of
5 instructions by one or more processors contained in said FDMS causes said one or more
6 processors to perform the actions of:

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7 receiving a first indication ~~command~~ from said a first client on a wireless medium,
8 said first indication indicating that a first command ~~being~~ directed to a first field device
9 contained in said plurality of field devices has been issued from said first client; and
10 forwarding said first command on said control network to said first field device in
11 response to receiving said first indication.

12 wherein said first command is issued by an operator from said first client such that
13 said operator manages said plurality of field devices using said first client,

14 receiving a third indication ~~command~~ from a third client on a wire-line based
15 medium, said third indication indicating that a third command ~~being~~ directed to a third field
16 device contained in said plurality of devices has been issued from said third client; and

17 forwarding said third command to said third field device on said control network in
18 response to receiving said third indication.

1 Claim 15 (Currently Amended): Thecomputerreadablemediumofclaim14,further
2 comprising:

3 receiving a second indication ~~command~~ from said first client on said wireless
4 medium, said second indication indicating that a second command ~~being~~ directed to a
5 second field device contained in said plurality of field devices has been issued from said first
6 client, said second field device being connected to said first client; and

7 forwarding said second command on said wireless medium to said first client in
8 response to receiving said indication.

1 Claim 16 (Canceled)

1 Claim 17 (Currently Amended): Thecomputerreadablemediumofclaim15,further
2 comprising maintaining a central log containing information on said first command, third
3 command and said second command.

1 Claim 18 (Currently Amended): Acomputerreadablemediumcarryingoneormore
2 sequences of instructions for causing a client to enable remote management of a plurality of

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field devices, said plurality of field devices being coupled to a field device management station (FDMS) by a control network, wherein execution of said one or more sequences of instructions by one or more processors contained in said client causes said one or more processors to perform the actions of:

~~sending enabling a user to issue a first command to said FDMS on a wireless medium, said first command being directed to a first field device contained in said plurality of field devices; and~~

sending an indication to said FDMS on a wireless medium, said first indication indicating that said command directed to said first field device has been issued;

receiving a first response on said wireless medium from said FDMS;

~~wherein said first command is issued by an operator such that said operator manages said plurality of field devices using said first client,~~

wherein said client is connected to a second field device by a path,

~~sending enabling said user to issue a second command to said FDMS on said wireless medium, said second command being directed to a second field device contained in said plurality of field devices;~~

sending a second indication to said FDMS on said wireless medium indicating that said second command directed to said second field has been issued;

receiving said second command from said FDMS on said wireless medium; and

forwarding said second command to said second field device on said path after said receiving from said FDMS.

Claim 19 (Canceled)

Claim 20 (New): A method of enabling an operator to remotely manage a plurality of field devices designed to implement a process in a plant, said plant further containing a field device management station (FDMS) coupled to said plurality of field devices by a control network, said method comprising:

providing a wireless connection from a first client, wherein said wireless connection provides communication between said first client and said FDMS;

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8 enabling said operator to issue a first command from said first client to a first field
9 device contained in said plurality of field devices;
10 transferring said first command from said first client to said FDMS on said wireless
11 connection;
12 forwarding said first command from said FDMS to said first field device on said
13 control network,
14 whereby said operator manages said plurality of field devices using said first client,
15 connecting said first client to a second field device contained in said plurality of field
16 devices;
17 transferring a second command from said FDMS to said first client using said
18 wireless connection, wherein said second command is directed to said second field device;
19 sending said second command from said first client to said second field device,
20 whereby said second command is forwarded from said FDMS to said second field device
21 without using said control network; and
22 enabling said operator to issue said second command from said first client, wherein
23 said FDMS receives said second command and performs said transferring said second
24 command.